WHAT IS CLAIMED IS:

1. A magnetic recording medium comprising:

an in-plane magnetic film used for recording, the in-plane magnetic film having a magnetization easy axis in an in-plane direction; and

a perpendicular magnetic film formed on said in-plane magnetic film, the perpendicular magnetic film having a magnetization easy axis oriented in a direction perpendicular to said magnetization easy axis of said in-plane magnetic film,

wherein a tBr of said perpendicular magnetic film is set so as not to exceed one-fifth of a tBr of said in-plane magnetic film at the maximum, where the tBr is the product of a thickness and a residual magnetization.

2. The magnetic recording medium as claimed in claim 1, wherein said perpendicular magnetic film has a thickness not exceeding 5 nm at the maximum.

3. The magnetic recording medium as claimed in claim 1, wherein an anisotropic magnetic field Hk of said perpendicular magnetic film is set

at least 1.2 times as large as an anisotropic magnetic field Hk of said in-plane magnetic film.

4. The magnetic recording medium as claimed in claim 1, further comprising a nonmagnetic spacer provided between said in-plane magnetic film and said perpendicular magnetic film.

5. The magnetic recording medium as claimed in claim 4, wherein said nonmagnetic spacer has a thickness not exceeding 2 nm.

6. The magnetic recording medium as claimed in claim 1, wherein said perpendicular magnetic film is formed of one of a Co-group alloy and a Co-group artificial lattice film.

7. A magnetic recording and reproducing device including:

a magnetic recording medium comprising:

an in-plane magnetic film used for recording, the in-plane magnetic film having a magnetization easy axis in an in-plane direction; and

a perpendicular magnetic film formed on

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said in-plane magnetic film, the perpendicular magnetic film having a magnetization easy axis oriented in a direction perpendicular to said magnetization easy axis of said in-plane magnetic film,

wherein a tBr of said perpendicular magnetic film is set so as not to exceed one-fifth of a tBr of said in-plane magnetic film at the maximum, where the tBr is the product of a thickness and a residual magnetization.